

What is claimed is:

1. A method for making a sustained drug delivery device, the method comprising  
5 introducing a nucleic acid encoding a bioactive agent into a female helminth;  
selecting a female stably transformed with said bioactive agent-encoding nucleic acid;  
crossing said stably transformed female to a non-transformed male helminth;  
10 and  
isolating a progeny male containing said stably transformed nucleic acid,  
thereby making a sustained drug delivery device.
2. The method of claim 1, wherein the helminth is a hookworm, roundworm, pinworm or tapeworm.
3. The method of claim 1, wherein the helminth is a Schistosome species.
4. The method of claim 3, wherein the Schistosome species is *Schistosoma mansoni*,  
20 *Schistosoma japonicum*, or *Schistosoma hematobium*.
5. The method of claim 1, wherein the bioactive agent is a polypeptide.
6. The method of claim 4, wherein the polypeptide is a secreted polypeptide.

7. The method of claim 4, wherein the polypeptide is a post-translationally modified polypeptide.

5 8. The method of claim 7, wherein the post-translational modification is glycosylation.

9. The method of claim 5, wherein the polypeptide is a cytokine, enzyme, hormone, or neurotransmitter.

10 10. A sustained drug delivery device comprising a stably transformed helminth male prepared according to the method of claim 1.

11. The sustained delivery device of claim 10, wherein the helminth is a Schistosome species.

12. A miracidia containing the sustained drug delivery device of claim 11.

13. A snail containing the miracidia of claim 12.

20 14. A cercaria comprising the sustained drug delivery device of claim 11.

15. A pharmaceutical composition comprising the sustained delivery device of claim 11 and a pharmaceutically acceptable carrier.

25 16. A method of delivering a bioactive agent to a host, the method comprising

introducing a stably transformed male helminth into a host, wherein said male is stably transformed with a nucleic acid encoding said bioactive agent, wherein expression of said nucleic acid in said helminth results in delivery of said bioactive agent to said host.

5

17. The method of claim 16, wherein the host is a human or domesticated animal.

18. A method of treating or preventing a disease in a host, the method comprising introducing a stably transformed helminth male into a host, wherein said male is stably transformed with a nucleic acid encoding a bioactive agent, wherein expression of said nucleic acid in said helminth results in delivery of said bioactive agent to said host in an amount sufficient to treat or prevent said disease.

10  
15  
19. The method of claim 18, wherein the disease is diabetes mellitus type 1, hemophilia, dwarfism, Gaucher's disease, alpha<sub>1</sub>-antitrypsin deficiency, inflammatory bowel disease or growth acceleration in cattle.

20. The method of claim 19, wherein the host is a human.